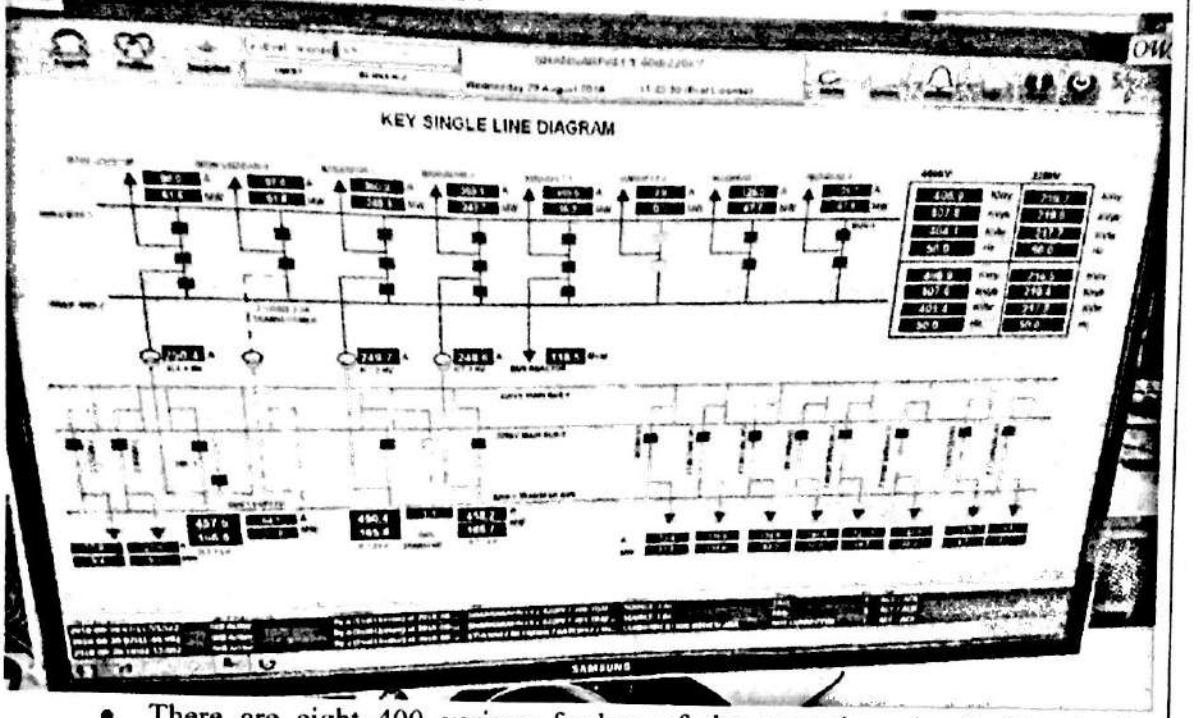
Gokaraju Rangaraju Institute of Engineering and Technology

EVENT SUMMARY REPORT

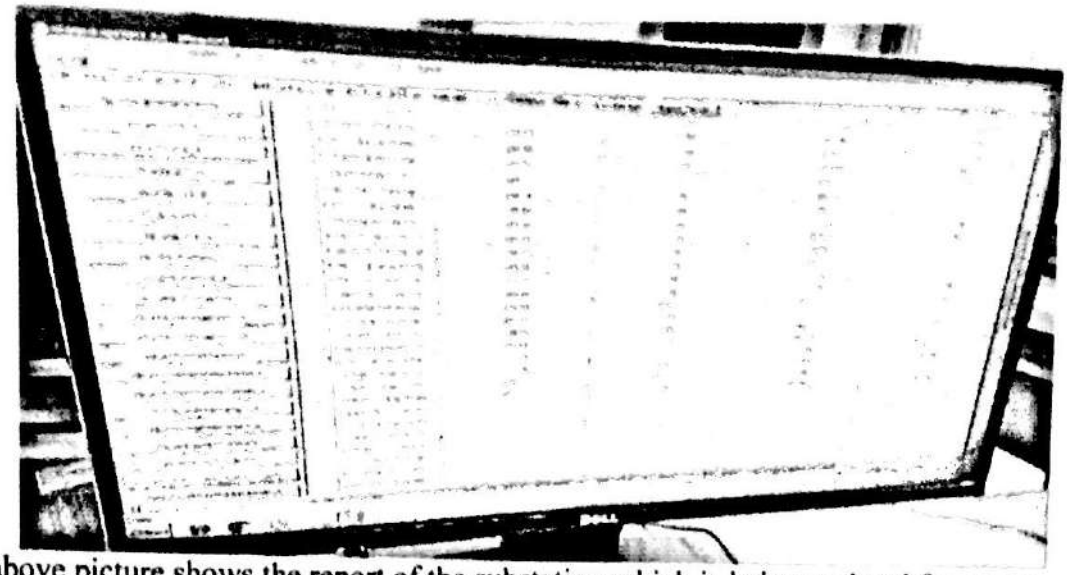
Nature of the Event (Workshop / FDP / Seminar / Guest Lecture / Talk GD/ Training Program / Quiz / Presentation/ Industrial Visit)	Industrial Visit
Title / Theme of the Event	Industrial Visit , 440 kV GIS Sub Station, Shankarpally.
Details of the Coordinator	A Vinay Kumar
Date on which Event is held	29th Aug 2018
Target Audience (Teaching Faculty / Non-Teaching Faculty / Students)	Students
Summary of the Event	The Shankarpally substation is located in the state Telangana under Rangareddy district. This substation falls under Shankarpally mandal of Chevella revenue division. Its spread over an area of 70 acres operating the 400/220kv. The substation and its associated lines will meet the load area in and around Hyderabad and Rangareddy districts while giving reliable supply to Gachibowli, Yedumalleram, Shadnagar and Thandur. Its gives load relief to the existing Malleram, Gajwel, Ghanapur, Mamidipally, 440/220kv substation. 66 students has visited the substation.

KEY SINGLE LINE DIAGRAM :

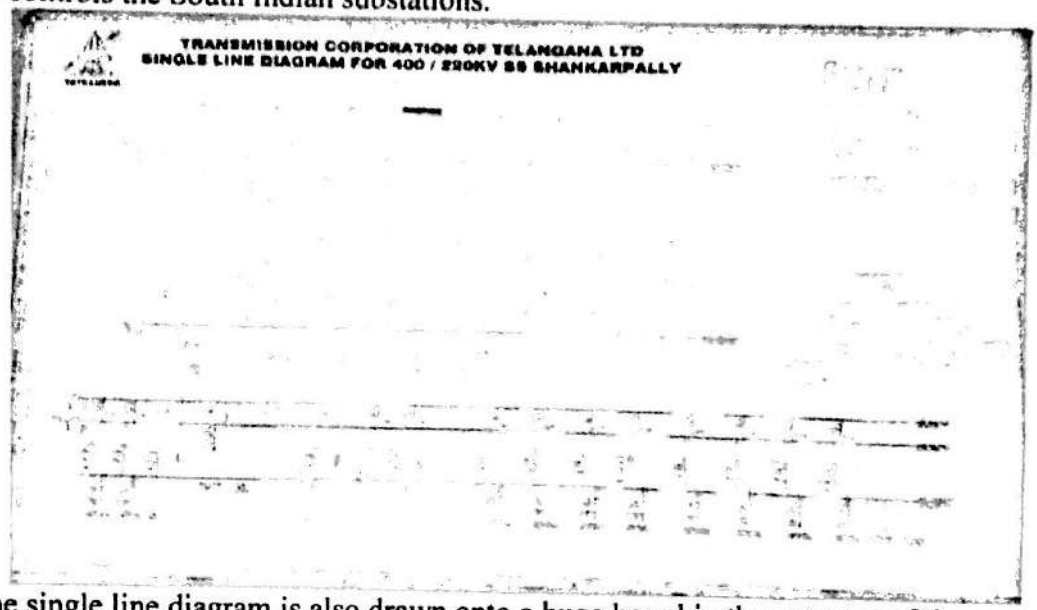


- There are eight 400 various feeders of the operating circuit. Mostly the feeders are thermal and rarely dependent on Hydal and consists of two buses in each 400kv line and 400kv line is divided into 23 bays.
- Each bay has one feeder and one trip coil.
- 220kv line has a maximum of 10 feeders.
- The blue lines represent the 400kv lines and the red lines represent 220kv lines.
- The negative sign indicates the flow of input power and the positive sign indicates the outflow power.
- The optical fibre used is the IEC61850.
- When the connection of two lines is green then it says that the line is open and the red shows that the line is closed or in service.
- Bangalore controls the South Indian substations so the data from Shankarpally is transmitted to Bangalore which then is transmitted to Delhi.
- There are a total of four transformers based on double bus system.
- The power's taken to bus and then distributed.
- Each feeder has protection of BCU(Bay Controlling Uniit), main 1 and main 2. When feeder is not in conditioning state, the synchronizing should be done.
- Synchronizing should be done by maintaining the frequency same as grid phase to ground.

- 90% faults are transient in nature and the rest 10% are due to line to line etc in case of danger a circuit breaker is used.



The above picture shows the report of the substation which is being updated for every hour during the 24 hours. This report is then forwarded or transmitted the Banglore office which controls the South Indian substations.



The single line diagram is also drawn onto a huge board in the entrance of the control room. It shows the total connection of substation, says about different type of lines used in the drawing.

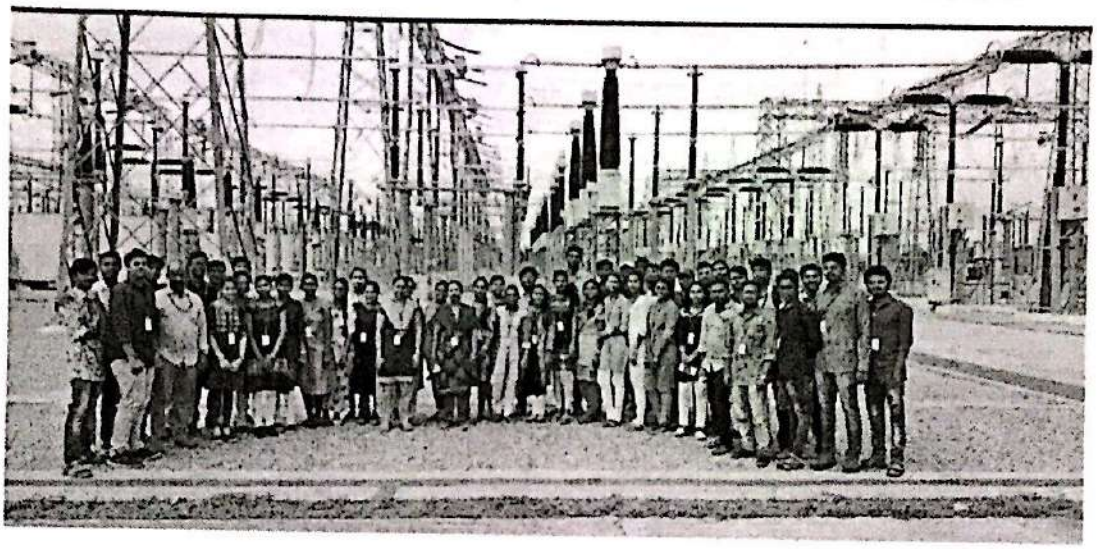
These were the different panels in the control room and each panel has its own function, circuit and different parameters. Panels consisted of analog meters and set of lights which showed the operation of the respective panel. There were two such panels.

Beside the panels there were 110 cells of each 2 volts so that the battery voltage rose to 220v. The cells of sulphuric acid content, were connected in series and set up was called a battery. Each battery would run up to three or four years.The difference of the 1st cell to 110th cell should be greater than 220v and 2v between the 1st and 2nd cell.

- After the simulation or controlling part we went to the yard for the real equipment .

- The whole yard consisted thunder masters at the four corners in order to avoid damage during thunders.

- Explanation of the equipment's throughout the whole yard is done along the designing.
- The safety measures of the substation were explained in sequence after the yard is completed.
- The communication of the substations in the form of codes are the given a brief explanation by the sub-engineer.
- This visit is related to Power Systems and Switch Gear and Protection



POs attained with this Event (number and description)	**PO1**: Ability to apply knowledge of mathematics, science, and engineering. **PO3**: Ability to design a system, component, or process to meet desired needs within realistic constraints. **PO5**: Ability to identify, formulates, and solves engineering problems. **PO6**: Understanding of professional and ethical responsibility. **PO9**: Recognition of the need for, and an ability to engage in life-long learning. **PO10**: Knowledge of contemporary issues.

Signature of Coordinator

Signature of HOD

List of Students Participated

S.No	Name	S.No	Name
1	AREPALLI MANOJ	34	M MANIKANTA
2	APPALA BHAVANI SRIJA	35	MANAV SINGH
3	ARUKALA PRANATHI	36	MANCHALA SANJAY KUMAR
4	ARVIND NAIDU	37	YALLA JOHN PRANOY
5	BERA RANJITH	38	MD SHARUKH AHMED
6	BHAIRISHETTI HEMANTHKUMAR	39	NAROJI GANGA PRASAD
7	BHOOKYA THARANYA NAIK	40	Mohmad Imran Pasha
8	Chindam Shekar	41	MOUNENDHAR BABU PURAM
9	CHINTAPOOLA SWATHI	42	SAI SANDEEPYA JONNAVITHULA
10	BOLISHETTI SAIJEEVAN	43	NADDI KIRAN
11	BOLLUR YASHWANT	44	NAGARAPU PRADEEP
12	Chunduri Sri Harsha	45	Paaka Vijayanand Sagar
13	D Bhushan Sai	46	K V S SANDEEP
14	D PRAVALLIKA	47	PATHAPATI DIVYA
15	D RAHUL	48	PATTA RAMYA
16	GUMMUDALA SAI KRISHNA GOUD	49	PEDDOLLA CHANDRA VARSHITH GOUD
17	J MOHAN	50	Pikkalla Shivasai
18	J SAI KUMAR	51	PINDI PAVAN KALYAN
19	K Harika	52	NUNAVATH NARESH
20	K N S KRISHNA CHAITANYA	53	RAMPALLY SURYA TEJA
21	K Rama Lakshmi Mounisha	54	RAVIKANTH MEHAR SAI
22	K S SUPRABATH	55	S V BHARGAVA
23	Kallepalli Ravi Varma	56	SANGEM SOUJANYA
24	KARIVEDA ANJALI	57	SANGISETTY RAKESH SAGAR
25	ANEM JOSEPH RAJU	58	Sanjukta Raychaudhuri
26	KONDA TEJA	59	KOTHA RMAYA SREE
27	TETALA SURYA VENKATA NAGASAI PRANEETH REDDY	60	THUMU MANIDEEP
28	T SRIVASTAVI	61	TUMMALACHARLA PRAVEEN
29	Kotapati Manoj	62	Vaidyula Nagi Reddy
30	GARLAPATI VARUN GUPTHA	63	VANGA NAGAGANESH
31	GUGULOTH SUMAN	64	VEGESNA NAGA MEGHANA
32	M Aishwarya	65	VIDYA K
33	M GAYATHRI	66	Yeshala Sai Kumar